

APPLICABLE REQUIREMENT: RULE 331 – COLD CLEANING MACHINES

ALLOWABLE EMISSIONS:

OPERATIONAL LIMITATIONS/STANDARDS:

ALL CLEANING MACHINES SHALL BE ONE OF THE FOLLOWING TYPES:

1. Batch loaded cold cleaners with remote reservoir;
2. Batch loaded cold cleaners without a remote reservoir (such as solvent dip tank);
3. Shall use only low VOC cleaner (A low VOC cleaner is any solution or homogeneous suspension that, as used, contains less than 50 grams of VOC per liter of material (0.42 lb VOC/gal) or is at least 95% water by weight or volume as determined by an applicable test method in Section 502 of County Rule 331); OR
4. A sealed system. A sealed system is one that meets all of the following requirements:
 - a. Is an airtight or airless cleaning system which is operated according to the manufacturer's specifications and, unless otherwise indicated by the manufacturer, meets all of the following requirements:
 - b. Has a door or other pressure-sealing apparatus that is shut during each cleaning and drying cycle.
 - c. Has a differential pressure gauge that always indicates the pressure in the sealed chamber when occupied or in active use.
 - d. Any associated pressure relief device(s) shall be so designed and operated as to prevent liquid cleaning-solvents from draining out.

[County Rule 210 §302.1]

SOLVENT HANDLING REQUIREMENTS:

5. All cleaning-solvent, including solvent soaked materials, shall be kept in closed leakfree containers that are opened only when adding or removing material. Each container shall be clearly labeled with its contents.
6. If an cleaning-solvent escapes from a container:
 - a. Wipe up or otherwise remove immediately if in accessible areas.
 - b. For areas where access is not feasible during normal production, remove as soon as reasonably possible.
7. Unless records show that VOC-containing cleaning material was sent offsite for legal disposal, it will be assumed that it evaporated on site.

[County Rule 331 §301]

EQUIPMENT REQUIREMENTS FOR ALL CLEANING MACHINES:

8. The Permittee shall provide a leakfree container (degreaser) for the solvents and the articles being cleaned.
 - a. The VOC-containment portion shall be impervious to VOC-containing liquid and vapors.
 - b. No surface of any freeboard required by this rule shall have an opening or duct through which VOC can escape to the atmosphere except as required by OSHA.

[County Rule 331 §302.1] [SIP Rule 331 §301]
9. The Permittee shall maintain and operate all cleaning machine equipment required by this rule and any of its emission controls required by this rule.

[County Rule 331 §302.2] [SIP Rule 331 §306.1]
10. The Permittee shall not dispose of any solvent, including waste solvent, in such a manner as will cause or allow its evaporation into the atmosphere. Records of its disposal/recovery shall be kept in accordance with hazardous waste disposal statutes.

[SIP Rule 331 §306.4]

SPECIFIC OPERATING & SIGNAGE REQUIREMENTS FOR CLEANING MACHINES

11. The Permittee shall conform to the following operating requirements when cleaning with cleaning-solvents other than Low-VOC Cleaners:
 - a. Comfort fans shall not be used near cleaning machines;
 - b. Do not remove any device designed to cover the solvent unless processing work in the cleaning machine or maintaining the machine;
 - c. Drain cleaned parts for at least (15) fifteen seconds after cleaning or until dripping ceases, whichever is later;
 - d. If using a cleaning-solvent spray system:
 - 1) Use only a continuous, undivided stream (not a fine, atomized, or shower type spray).
 - 2) Pressure at the orifice from which the solvent emerges shall not exceed (10) ten psig and shall not cause liquid solvent to splash outside the solvent container.
 - 3) In an in-line cleaning machine, a shower-type spray is allowed, provided that the spraying is conducted in a totally confined space that is separated from the environment.
 - 4) Exceptions to the foregoing subsections 1), 2), and 3) are provided for in Special Non-vapor Cleaning Situations in the section titled the same below.
 - e. The permittee shall not cause agitation of a cleaning-solvent in a cleaning machine by sparging with air or other gas. Covers shall be placed over ultrasonic cleaners when the cleaning cycle exceeds (15) fifteen seconds;

- f. The permittee shall not place porous or absorbent materials in or on a cleaning machine. This includes, but is not limited to, cloth, leather, wood, and rope. No object with a sealed wood handle, including a brush, is allowed;
- g. The ventilation rate at the cleaning machine shall not exceed 65 cfm per square foot of evaporative surface ($20 \text{ m}^3/\text{min}/\text{m}^2$), unless that rate must be changed to meet a standard specified and certified by a Certified Safety Professional, a Certified Industrial Hygienist, or a licensed professional engineer experienced in ventilation, to meet health and safety requirements;
- h. Limit the vertical speed of mechanical hoists moving parts in and out of the cleaning machine to a maximum of 2.2 inches per second and (11) eleven ft/min (3.3 m/min);
- i. The permittee shall prevent cross contamination of solvents regulated by Section 304 of Rule 331 with solvents that are not so regulated. Use signs, separated work-areas, or other effective means for this purpose. This includes those spray gun cleaning solvents that are regulated by another rule.

[County Rule 331 §303.1] [SIP Rule 331 §306]

12. When using cleaning-solvent, other than Low-VOC Cleaner, in any solvent cleaning machine (degreaser) or dip tank, the permittee shall provide the following signage requirements on the machine, or within $3\frac{1}{4}$ feet (1 meter) of the machine, a permanent, conspicuous label, or placard which includes, at a minimum, each of the following applicable instructions, or its equivalent:
 - a. "Keep cover closed when parts are not being handled." (This is not required for remote reservoir cleaners.)
 - b. "Drain parts until they can be removed without dripping."
 - c. "Do not blow off parts before they have stopped dripping."
 - d. "Wipe up spills and drips as soon as possible; store used spill rags [or 'wiping material'] in covered container."
 - e. "Don't leave cloth or any absorbent materials in or on this tank."
 - f. For cleaning machines with moving parts such as hoists, pumps, or conveyors, post: "Operating instructions can be obtained from _____" where the Permittee shall list a person or place where the instructions are available.

[County Rule 331 §303.2] [SIP Rule 331 §306]

SOLVENT SPECIFICATION

13. All cleaning solvents, except Low-VOC Cleaners, shall be conforming solvents. A conforming solvent is one which has a total VOC vapor pressure at 68°F (20°C) not exceeding (2) two millimeters of mercury column maximum total VOC vapor pressure through October 31, 2001; or 1 millimeter of mercury column maximum total VOC vapor pressure from November 1, 2001 and thereafter.

14. A nonconforming solvent may be used if it is utilized in a sealed system.

[County Rule 331 §304]

BATCH CLEANING MACHINES

15. The permittee shall equip each batch cleaning machine with remote reservoir, including the cabinet type(s), with the following:

- a. A sink-like work area or basin which is sloped sufficiently towards the drain so as to prevent pooling of cleaning-solvent.
- b. A single, unimpeded drain opening or cluster of openings served by a single drain for the cleaning-solvent to flow from the sink into the enclosed reservoir. Such opening(s) shall be contained within a contiguous area not larger than 15.5 square inches (100 cm²).
- c. Provide a means for drainage of cleaned parts such that the drained solvent is returned to the cleaning machine.

[County Rule 331 §305.1] [SIP Rule 331 §302.1]

16. The Permittee shall equip each batch cleaning machine without a remote reservoir with all of the following:

- a. Have and use an internal drainage rack or other assembly that confines within the freeboard all cleaning-solvent dripping from parts and returns it to the hold of the cleaning machine (degreaser).
- b. Have an impervious cover which when closed prevents cleaning-solvent vapors in the cleaning machine from escaping into the air/atmosphere when not processing work in the cleaning machine. The cover shall be fitted so that in its closed position the cover is between the cleaning-solvent and any lip exhaust or other safety vent, except that such position of cover and venting may be altered by an operator for valid concerns of flammability established in writing and certified to by a Certified Safety Professional or a Certified Industrial Hygienist to meet health and safety requirements.
- c. The freeboard height shall be not less than 6 inches (15.2 cm). Freeboard height for batch cleaning machines is the vertical distance from the solvent/air interface to the least elevated point of the top-rim when the cover is open or removed, measured during idling mode.
- d. The freeboard zone shall have a permanent, conspicuous mark that locates the maximum allowable solvent level which conforms to the applicable freeboard requirements.

[County Rule 331 §305.2] [SIP Rule 331 §302.2]

SPECIAL NON-VAPOR CLEANING SITUATIONS

17. The Permittee shall operate and equip the devices as follows when blasting or misting with conforming solvents;

- a. The device shall have internal drainage, a reservoir or sump, and a completely enclosed cleaning chamber, designed so as to prevent any perceptible liquid from emerging from the device; and

- b. The device shall be operated such that there is no perceptible leakage from the device except for incidental drops from drained, removed parts.

[County Rule 331 §307.1]

- 18. The Permittee shall use a sealed system for all blasting or misting with a non-conforming solvent.

[County Rule 331 §307.2]

- 19. Cleaning systems using cleaning-solvent that emerges from an object undergoing flushing with a visible mist or at a pressure exceeding 10 psig, shall comply as follows;

- a. For conforming solvents, use a containment system that is designed to prevent any perceptible cleaning-solvent liquid from becoming airborne outside the containment system, such as a completely enclosed chamber.

- b. Use a sealed system for non-conforming solvents.

[County Rule 331 §307.3]

MONITORING/RECORDKEEPING:

- 1. The Permittee shall maintain a current list of cleaning-solvents; state the VOC-content of each in pounds VOC per gallon of material or grams per liter of material.
- 2. The Permittee shall record the amount of cleaning-solvent used at the end of each month for the previous month. Show the type and amount of each make-up and all other cleaning-solvent.
- 3. Annually the Permittee shall document the use of concentrate that is used only in the formulation of Low VOC Cleaner.
- 4. Annually the Permittee may, for purposes of recording usage, give cleaning-solvents of similar VOC content a single group-name, distinct from any product names in the group. The total usage of all products in that group are then recorded under just one name. (In such case the Permittee shall also keep a separate list that identifies the product names of the particular solvents included under the group name.) To the group name shall be assigned the highest VOC content among the members of that group, rounded to the nearest 10th of a pound of VOC per gallon of material, or to the nearest gram VOC per liter of material.

[County Rule 331 §501] [SIP Rule 331 §501]

REPORTING:

The Permittee shall include the following information in each semiannual compliance report;

- a) certification that the operational requirements, specifically applicable to the Permittee's type of cleaning, continue to be in compliance;
- b) a summary of the listed cleaning-solvents currently used at the facility and state the VOC-content of each in VOC per gallon of material or grams per liter of material;

- c) certification that monthly and annual recordkeeping was performed as directed in the monitoring/recordkeeping requirements above; and
- d) a summary of any testing that may have been performed during the period.

[County Rule 210 302.1.e.(1)]

TESTING (if applicable):

1. As required by the Control Officer, the VOC content of solutions, dispersions, emulsions, and conforming solvents shall be determined by one of the following methods:
 - a. South Coast Air Quality Management District Method 313-91;
 - b. Bay Area Air Quality Management District Method 31;
 - c. Solids-free solutions, in which all organic components are VOCs, may be tested using Maricopa County Reference Method #100, "Total Organic Carbon for Windshield Washer Fluids", Maricopa County Air Pollution Control Rule 344 (April 7, 1999).
2. Within 60 days of permit issuance, the Permittee shall determine the VOC content of gaseous emissions entering and exiting the ECS by either EPA Method 18 or Method 25 or its sub-method.
3. Within 60 days of permit issuance, the Permittee shall determine the capture efficiency of the emission control device used by either using EPA Method 204 and its sub-methods, or by using mass balance calculation methods in concert with EPA Methods 2, 2a, 2c, and 2d.

[County Rule 331 §502] [SIP Rule 331 §502]